

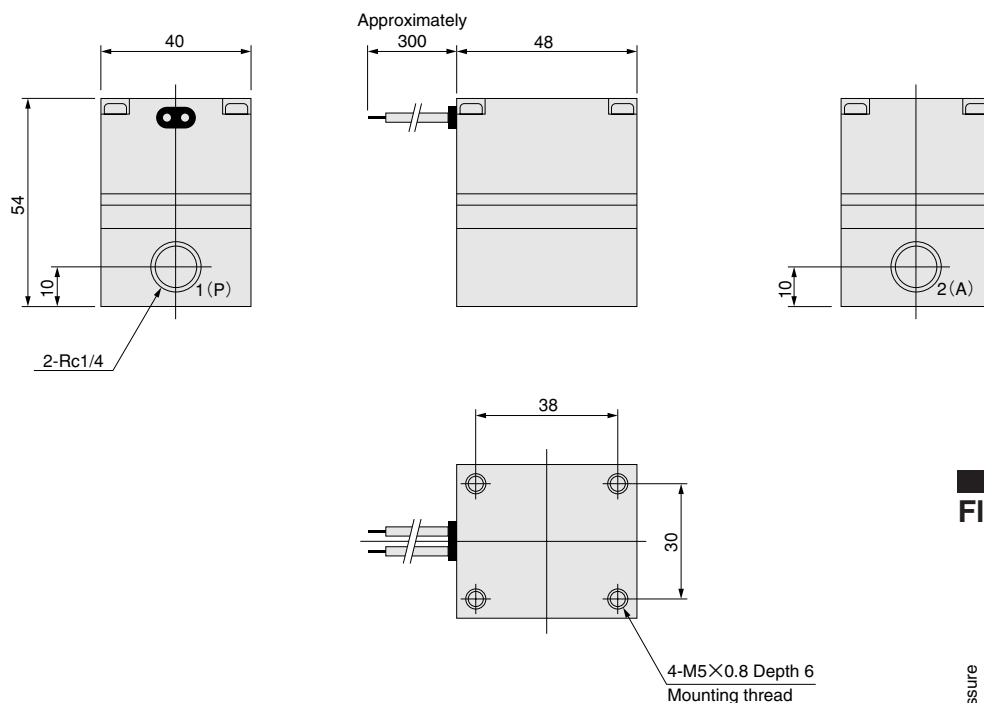
KOGANEI

Air Valve

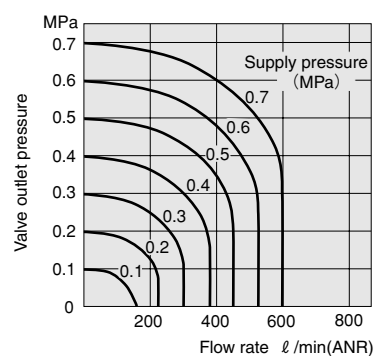
HIGH CYCLE SOLENOID VALVE

INSTRUCTION MANUAL Ver.1.0

Dimensions (mm)



Flow Rate



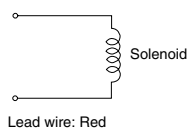
1MPa = 145psi., 1 ℓ/min = 0.0353ft³/min.

Handling Instructions and Precautions



Solenoid

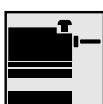
Internal circuit



Continuously energized time

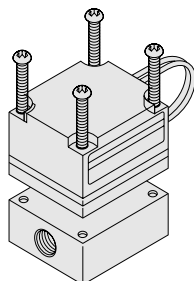
In high cycle solenoid valves, energizing continuously for too long can result in reduced performance or valve shutdown. Continuously energized time should be limited to 30 seconds or less.

In addition, maintain the duty ratio (ON time/OFF time) at 1.0 or below. If your application requires continuous energizing in excess of the above recommendations, consult us.



Replacement of valves

The high cycle solenoid valve construction allows solenoid and valve body can be removed from the base (piping portion), which means that the valve can easily be replaced without removing the piping. Loosen the 4 mounting screws on the top of the valve, and remove the solenoid and valve body from the base.



The order code for the replacement valve body only (including solenoid) is **HV160E1-2-M**.

Caution: Do not attempt to disassemble the valve body.

HIGH CYCLE SOLENOID VALVE

Order Code

HV160E1-2 DC24V

The high cycle solenoid valve supports improved equipment performance.

■ Simple poppet type structure offers reliability.

Flat armature and separated valve reduce shocks at valve seat and inertial mass to a minimum, achieving reliability for high-frequency operations.

■ High durability offers huge reductions in maintenance costs.

Offers long life of 500 million operations to increase interval between maintenance periods. Holds loss time to a minimum, achieving highly efficient device operations.

Specifications

Specifications

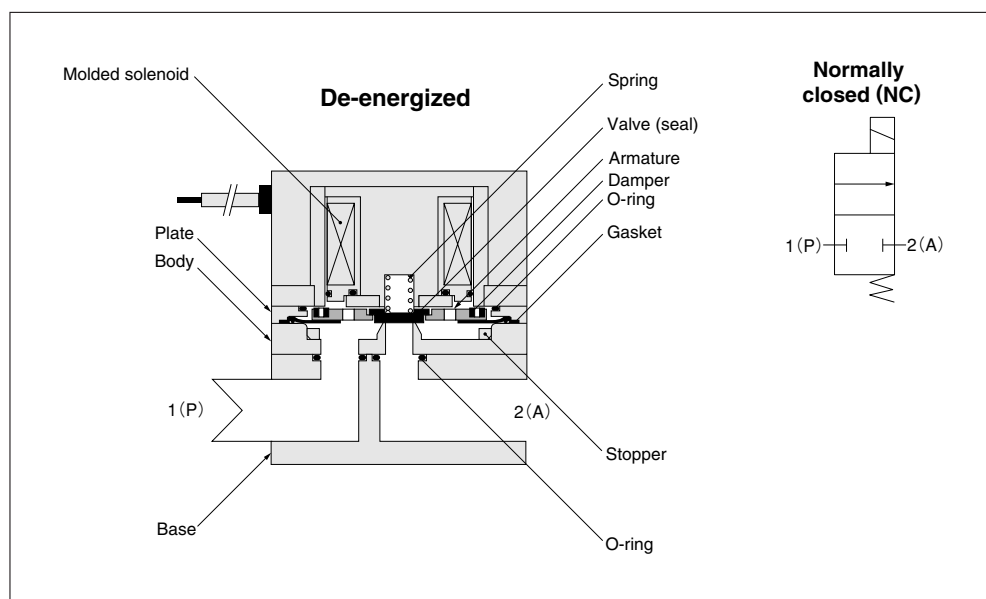
Item	Model	HV160E1-2
Media		Air
Operation type		Direct acting type
Number of ports		2
Number of positions		2
Valve function		Normally closed (NC)
Effective area [Cv]	mm ²	7.0 [0.39]
Port size		Rc 1/4
Lubrication		Not required
Operating pressure range	MPa {kgf/cm ² } [psi.]	0~0.7 {0~7.1} [0~102]
Proof pressure	MPa {kgf/cm ² } [psi.]	1.05 {10.7} [152]
Response time ^{Note} ON/OFF	ms	10/5 or below
Maximum operating frequency	Hz	25
Operating temperature range (atmosphere and media)	°C [°F]	5~50 [41~122]
Shock resistance	m/s ² {G}	Lateral direction
		Axial direction
		1373.0 {140.0}
		294.2 {30.0}
Mounting direction		Any
Life cycle	times	Over 5×10 ⁸
Mass	g [oz.]	300 [10.58]

Note: Values when air pressure is 0.5MPa {5.1kgf/cm²} [73psi.] and rated voltage are applied. Also, the use of a flywheel diode or similar circuit for surge suppression increases the response time.

Solenoid Specifications

Item	Rated voltage	DC24V
Type		DC solenoid
Operating voltage range	V	21.6~26.4 (24±10%)
Current (When rated voltage is applied)	mA	420 (10W)
Insulation resistance	MΩ	Over 100
Wiring and lead wire length		Grommet type : 300mm [11.8in.]
Color of lead wire		Red

Operating Principle and Symbol



Major Parts and Materials

Parts	Materials
Body	Aluminum alloy (anodized)
Armature	Magnetic stainless steel
Valve (seal)	Synthetic rubber (urethane)
Damper	Synthetic rubber (urethane)